

(NM – 7) IWM to increase Nitrogen Use Efficiency - Evaluation Guide (Corn Silage example)

Crop: Corn Silage		Expected Yield: 20 tons		Sample Depth: 0-12"		Irr. System: Hi-Flow		Leveled Field: Yes	
		MAR	APR	MAY	JUN	JUL	AUG	SEP	<p>1/ Agronomy Tech. Note 58 (NMSU jobsheet – soil test interpretations)</p> <p>2/ ENR = Expected Nitrogen Release (N from mineralized O.M.)</p> <p>3/ <u>Nitrogen Inputs</u>: Nitrogen (urea) applied in three applications</p> <p>4/ NMSU Guide A-143: Using Plant Tissue Analyses for Efficient Water Use by Plants</p> <p>5/ Refer to the following Sections of this Guide for further IWM Assessments: <u>Section 30</u>: Field Irrigation Evaluation Guide <u>Section 32</u>: Graded Border Irrigation Analyses Guide <u>Section 35</u>: Soil Moisture Monitoring Record Keeping Form & Irrigation Scheduling Guide</p>
		<p>Emergence-----Rapid Growth-----Effective Full Cover-----Maturation</p>							
<p>☺</p> <p>Daily ETc (in./day)</p>	.40	<p>Petiole/Leaf Samples - To assess N sufficiency level & adequacy of fertility program</p>							
	.30	<p>Soil Samples taken on March 5</p>							
	.20	<p>Removal of Soil N occurs through leaching, volatilization, denitrification, soil erosion, and harvested crop.</p>							
	.10								
<p>It is important that the plant response (yield & quality) be correlated to the IWM and Fertility program (which is based on soil & tissue analysis and NMSU recommendations^{1/}).</p>		<p>Soil Analysis: Enter sampling date(s) and test results for Nitrate-N (ppm) & ENR^{2/} (lbs)</p>							
		24 ppm							
		20 lbs							
		<p>Nitrogen Inputs^{3/} (N fertilizer, manure, other): Enter application date(s) and pounds of N applied per acre</p>							
			4/10		6/5	7/5			
			50 lbs N		50 lbs N	50 lbs N			
		<p>Petiole/Leaf Analysis^{4/}: Enter sampling date(s) and test results for % N (sufficiency level is 2.7-3.5%)</p>							
				5/15					
				2.9%					
		<p>Irrigations^{5/} (irrigated on a two-week fixed schedule): Enter irrigation dates and amount applied per irrigation (3" applied/irrigation)</p>							
3/15	4/1	5/1	6/1	7/1	8/1				
	4/15	5/15	6/15	7/15					

NOTE: Factors involved in IWM planning: Soil Texture, Soil Structure, Intake Family, Water Quality (salinity and SAR), Irrigation Application Efficiency evaluations, irrigation monitoring and scheduling, Irrigation System selection, consumptive use requirements, root zone depth.

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